

5486-D2-01-CFP

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

APPLICANT : O'BRIEN, ET AL.                      EXAMINER :  
SERIAL NO :    ART UNIT :  
FILED :    PAPER NO :  
FOR :                      METHOD OF INHIBITING MATRIX  
METALLOPROTEINASES

INFORMATION DISCLOSURE STATEMENT

MAIL STOP PATENT APPLICATION  
Commissioner for Patents  
PO BOX 1450  
Alexandria, VA 22313-1450

Dear Sir:

This paper is an Information Disclosure Statement ("IDS") for, and contains remarks about, the accompanying patent application, which is a divisional application under 35 U.S.C. § 121 of United States Patent Application No. 10/162,518, filed June 4, 2002, now allowed, which is a divisional application under 35 U.S.C. § 121 of United States Patent Application No. 09/254,384, filed March 2, 1999, which is a §371 of PCT/US97/14859, filed August 22, 1997, which claims benefit of priority from United States Provisional Patent Application Nos. 60/025,062, filed September 4, 1996, and 60/055,713, filed August 7, 1997.

Please enter the following remarks and IDS in the present application.

Express Mail No. EF220716546US

### REMARKS

Applicants herein make available to the Patent and Trademark Office the following copending cases, parent and first divisional applications, respectively, cited by the applicant, to the USPTO in the present application:

#### PARENT:

**Our Ref. No.:** 5486-01-CFP  
**In Re Application Of:** O'Brien, et al.  
**U.S. Serial No.:** 09/254,384  
**Filed:** March 2, 1999  
**For:** METHOD OF INHIBITING MATRIX  
METALLOPROTEINASES

#### FIRST DIVISIONAL:

**Our Ref. No.:** 5486-D1-01-CFP  
**In Re Application Of:** O'Brien, et al.  
**U.S. Serial No.:** 10/162,518  
**Filed:** June 4, 2002  
**For:** METHOD OF INHIBITING MATRIX  
METALLOPROTEINASES

The Examiner is requested to consider carefully the claims of these applications in connection with the examination of the above-identified application in accord with 37 CFR §1.104(a). It is believed the Examiner will concur with applicant's belief that the subject matter presently claimed is neither claimed nor obvious by the foregoing application.

In this regard, Applicants note that the instant second divisional application differs from the parent application in the following respects:

- (1) A cross-reference to related applications has been added after the title;
- (2) Original Claims 1 to 33 have been deleted; and

(3) Instant Claims 1, 2, and 3 are presented that correspond to original Claims 20, 32, and 34, respectively, wherein the original claims have been amended as described below. Claims 1 and 2 are original Claims 20 and 32 that have been amended to literally recite subject matter that was previously by reference to original Claim 1. Further, Claims 1 to 3 are original Claims 20, 32, and 34 that have been amended to delete the term "prodrugs" therefrom, insert the particular esters thereof and amides thereof from the specification on page 23, at lines 11-16 and 17-24, respectively, and insert language that states literally what was previously disclosed by inference regarding the point of bonding of the  $S(=O)_2M$  group to the position numbered benzo ring of Formula I.

No new matter is added.

***Information Disclosure Statement***

Applicants also herein make available to the U.S. Patent and Trademark Office copies of one Form PTO-1449 and three Forms PTO-892 from the parent application and one Form PTO/SB/08A and one Form PTO-892 from the first divisional application. The Forms PTO-1449 and PTO/SB/08A list certain references cited by the applicants, while Forms PTO-892 list certain references cited by Examiners during prosecution of the parent and first divisional applications.

The Examiner is respectfully requested to consider carefully the complete text of these cited references in connection with the examination of the above-identified application in accord with 37 CFR §1.104(a).

It is respectfully requested that all cited references considered by the Examiner be listed in the "References Cited" portion of any patent issuing from the instant application (MPEP § 1302.12).

A prompt and favorable examination is earnestly solicited.

The Commissioner of Patents and Trademarks is hereby authorized to charge any payment of fees required for this communication, or credit any overpayment of fees, to deposit account 23-0455.

The undersigned would welcome a telephone call from the Examiner to discuss any matters.

Respectfully submitted,

Date: June 25, 2003

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**INFORMATION DISCLOSURE**  
(Use several sheets if necessary)

Patent Number (Optional) <b>5486-01-</b>	Application Number <b>09/254384</b>
Applicant(s) <b>P.M. O'BRIEN, ET AL.</b>	
Filing Date <b>MARCH 2, 1999</b>	Group Art Unit

**U.S. PATENT DOCUMENTS**

*EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
		3,845,097	10/29/1974	S. TOYOSHIMA, ET AL.	260	471	
		4,097,472	06/27/78	S. OKAMOTO, ET AL.	424	177	
		5,665,764	09/09/1997	D. HUPE, ET AL.	514	468	
		5,627,206	05/06/1997	D. HUPE, ET AL.	514	468	

**FOREIGN PATENT DOCUMENTS**

REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
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	0 606 046	07/13/1994	EUROPE			✓	
	0 183 271	05/16/1990	EUROPE			✓	
	97 27174	07/31/1997	WO				✓
	96 38434	12/05/1996	WO			✓	
	97 19068	05/29/1997	WO			✓	

**OTHER DOCUMENTS** (Including Author, Title, Date, Pertinent Pages, Etc.)

	ABDEL-GHAFFAR, ET AL., J. SERB. CHEM. SOC., SYNTHESIS OF BIOLOGICALLY ACTIVE FLUORENE-2-SULPHONYLAMINO ACID AND DIPEPTIDE DERIVATIVES, VOL. 55, NO. 6, 1990, PP. 311-317.
	EL-NAGGAR, ET AL., ACTA PHARM. JUGOSL. SYNTHESIS AND BIOLOGICAL ACTIVITY OF SOME NEW DIBENZOFURAN-AND 7-NITRODIBENZOFURAN-2-SULPHONYLAMINO ACID DERIVATIVES, V-35, 1985, PP 15-22
	PCT INTERNATIONAL SEARCH REPORT, PCT/US97/14859

EXAMINER	DATE CONSIDERED
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EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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**INFORMATION DISCLOSURE STATEMENT**  
(Use several sheets if necessary)

5486-01-TM

09/254384

Applicant(s)  
**P.M. O'BRIEN, ET AL**

Filing Date  
**MARCH 2, 1999**

Group Art Unit

**U.S. PATENT DOCUMENTS**

*EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE

**FOREIGN PATENT DOCUMENTS**

	REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
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		20 65 966	07/14/1977	DE				✓

**OTHER DOCUMENTS** (Including Author, Title, Date, Pertinent Pages, Etc.)


EXAMINER

DATE CONSIDERED

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# Notice of References Cited

Application/Control No.

09/254,384

Applicant(s)/Patent Under  
Re examination  
O'Brien

Examiner

Beby Jayaram

Art Unit

1624

Page 1 of 1

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*		DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	DOCUMENT SOURCE **	
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## NON-PATENT DOCUMENTS

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U.S. Patent and Trademark Office

PTO-892 (Rev. 03-98)

Notice of References Cited

Part of Paper No. 4

Express Mail No. EF220841138US

# Notice of References Cited

Application/Control No.

09/254,384

Applicant(s)/Patent Under  
Examination  
O'BRIEN ET AL.

Examiner

Thomas C McKenzie, Ph.D.

Art Unit

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Page 1 of 1

## U.S. PATENT DOCUMENTS

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Notice of References Cited

Part of Paper No. 6

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# **Notice of References Cited**

Application/Contr IN

09/254,384

Examiner

Thomas C McKenzie, Ph.D.

Applicant(s)/Patent Under Examination  
O'BRIEN ET AL.

Art Unit

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Page 1 of 1

## **U.S. PATENT DOCUMENTS**

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<input type="checkbox"/>	U	"Cecil Textbook of Medicine, 20th Edition", Bennett, J.C. Editor, W.B. Saunders, Philadelphia, 1996, pages LVIII-LIX.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	V	"Merck Manual of Diagnosis and Therapy, 16th Edition", Berkow, R. Editor-in-Chief, Merck Research Laboratories, Rahway, N.J., 1992, pages 2792-2793.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	W	Skiles, J.W. et al, Annual Reports in Medical Chemistry, Vol. 35, Academic Press, San Diego, 2000, pages 167-176.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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PTO-892 (Rev. 03-98)

Notice of References Cited

Part of Paper No. 9

Express Mail No. EF220841138US

**Notice of References Cited**

Application/Control No.

09/254,384

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Reexamination  
O'BRIEN ET AL.

Examiner

Thomas C McKenzie, Ph.D.

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Page 1 of 1

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*		Document Number	Date	Name	Classification	
		Country Code-Number-Kind Code	MM-YYYY			
	A	US-6,207,698-B1	03-2001	Wantanabe et al	514	414
	B	US- -				
	C	US- -				
	D	US- -				
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	F	US- -				
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**FOREIGN PATENT DOCUMENTS**

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	N	- -					
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	S	- -					
	T	- -					

**NON-PATENT DOCUMENTS**

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	Polman, C.H. et al, BMJ 2000, 321, 490-4.
	V	Cohen, J.A. et al, J. Neuroimmun., 1999, 98 29-36.
	W	
	X	

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.



Please type a plus sign (+) inside this box →

PTO/SB/088 (08-00)

Approved for use through 10/31/2002 OMB 0651-0031

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(use as many sheets as necessary)</i>				<b>Complete if Known</b>	
				Application Number	10/162,518
				Filing Date	June 4, 2002
				First Named Inventor	O'BRIEN ET AL
				Group Art Unit	1624
				Examiner Name	MCKENZIE, THOMAS C
Sheet	2	of	2	Attorney Docket Number	5486-D1-MAS

[illegible]

Examiner Signature		Date Considered	
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

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**Notice of References Cited**

Application/Control No.

10/162,518

Applicant(s)/Patent Under  
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Examiner

Thomas McKenzie Ph.D.

Art Unit

1624

Page 1 of 2

**U.S. PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	A	US-3,850,968	11-1974	Toyoshima et al	549/494
	B	US-3,919,291	11-1975	Toyoshima et al.	560/159
	C	US-4,066,773	01-1978	Okamoto et al.	514/319
	D	US-5,948,780	09-1999	Peterson et al.	514/255.01
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**FOREIGN PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N	JP 51105048	09-1976	Japan	Toyoshima et al	
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	T					

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	U	Chemical Abstracts document No. 86:30073, 1976.
	V	Dubois B, D'Hooghe MB, De Lepeleire K, Ketelaer P, Opdenakker G, Carton H., Mult Scler 1998 Apr;4(2):74-8, cited in PMID: 9599337.
	W	Polman, C.H. et al, BMJ 2000, 321, 490-4.
	X	Cohen, J.A. et al, J. Neuroimmun., 1999, 98 29-36.

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
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Art Unit

1624

Page 2 of 2

**U.S. PATENT DOCUMENTS**

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**FOREIGN PATENT DOCUMENTS**

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**NON-PATENT DOCUMENTS**

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	Draetta, G. and Pagano, M. in "Annual Reports in Medicinal Chemistry, Vol. 31", 1996, Academic Press, San Diego, p241-246.
	V	Summers, J.B. et al, in "Annual Reports in Medicinal Chemistry, Vol. 33", 1998, Academic Press, San Diego, p 131-140.
	W	Kikumoto, Ryoji; Tamao, Yoshikuni; Ohkubo, Kazuo; Tezuka, Tohru; Tonomura, Shinji; Okamoto, Shosuke; Funahara, Yoshinori; Hijikata, Akiko, J. Med. Chem., 23(8), 1980, 830-6 (English)
	X	

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.